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| APPLICATION NO.            | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.        |
|----------------------------|-------------|----------------------|---------------------|-------------------------|
| 09/682,151                 | 07/27/2001  | Martin E. Kordesch   | XDEV1100            | 5628                    |
| 7590                       | 06/10/2005  |                      | EXAMINER            |                         |
| Thomas R. FitzGerald, Esq. |             |                      | JACKSON JR, JEROME  |                         |
| 16 E. Main Street          |             |                      |                     |                         |
| Suite 210                  |             |                      | ART UNIT            | PAPER NUMBER            |
| Rochester, NY 14614-1803   |             |                      | 2815                |                         |
|                            |             |                      |                     | DATE MAILED: 06/10/2005 |

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                    |                 |  |
|------------------------------|--------------------|-----------------|--|
| <b>Office Action Summary</b> | Application No.    | Applicant(s)    |  |
|                              | 09/682,151         | KORDESCH ET AL. |  |
|                              | Examiner           | Art Unit        |  |
|                              | Jerome Jackson Jr. | 2815            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 04 April 2005.

2a) This action is FINAL.                                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 and 9-16 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-7 and 9-16 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1)<input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2)<input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3)<input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/>Paper No(s)/Mail Date <u>5/11/05</u>.</p> | <p>4)<input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. _____</p> <p>5)<input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6)<input type="checkbox"/> Other: _____</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7,9-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite as the third compound semiconductor layer is stated to have both first and second conductivity types. In claim 9, the newly recited limitation "a fourth compound semiconductor material...on the third active layer" appears to be misdescriptive as the fourth material (50) is shown to be on the second rather than the third material. Likewise claim 16 is vague and indefinite as the fourth compound semiconductor layer is recited to be upon the surface of the third layer, however, it is not upon the third layer in figures 8 and 9 which show a coplanar transistor device as claimed. Other claims are rejected for dependency on a rejected claim.

Claims 1,5,6,9,15 and 16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morris.

The previous rejection still applies and is considered to either anticipate or make obvious the claim structures as they are vague and indefinite and do not appear to be substantially different from the previous claims. Claims reciting different metals for the ohmic contacts are not patentable as Morris practices different metals for the contacts.

Claims 1,5,6,9,12,14-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sakai '871.

The previous rejection still applies and any new recitations are considered anticipated or obvious as the claims are vague and indefinite and not substantially different from the previous claims.

Claims 3,4,10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris with Singh.

The previous rejection with the above comments applies.

Claims 3,4,10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai with Singh.

The previous rejection with the above comments applies.

Claims 2,7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris/Singh or Sakai/Singh in view of Luo.

The previous rejection with the above comments applies. In addition Luo shows that nickel comprises a common emitter or collector contact layer. Hence claims 7 and 13 are obvious structure.

Applicant's arguments filed 4/4/5 have been fully considered but they are not persuasive. Arguments are initially unconvincing of patentability because the claims are vague and indefinite. Secondly, with regard to Morris, layer 224 is a moderately doped layer and is an intermediate contact layer to the intrinsic base and therefore if not expressly stated to be more highly doped than the intrinsic base, at least such would be obvious as otherwise it would not function well as a contact layer. Alternatively, it can be considered as part of either the second or fourth layers. The claims are broad and

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would read on either interpretation. Thirdly, applicant's argument is confusing as the third layer and second layer should not have the same conductivity type.

Arguments regarding Sakai are also not convincing of patentability as patterning the third layer (emitter 5) of Sakai does form an "opening" for a fourth layer 16 to contact the intrinsic base layer 4 regardless of whether layer 14 is "active" or not or even considered.

Arguments regarding nickel and aluminum are unconvincing of patentability as Luo shows nickel and aluminum to be conventional.

Selle '821 and Ueyanagi '487 are relevant art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571 272 1730. The examiner can normally be reached on t-th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571 272 1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JEROME JACKSON  
PRIMARY EXAMINER